

Abstract Submitted  
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**Electron and positron scattering using the confined variational method** JUN-YI ZHANG, JIM MITROY, ARC Center for Anti-Matter Studies, School of Engineering, Charles Darwin University, Darwin, NT 0909, Australia, KALMAN VARGA, Department of Physics and Astronomy, Vanderbilt University, Nashville, Tennessee 37235, USA — The phase shifts of a scattering Hamiltonian can be determined from the discrete energies of same Hamiltonian calculated with the addition of an artificial confining potential. The general formalism required to perform calculations on scattering states with non-zero angular momentum and on molecular systems is outlined. Calculations on real systems with correlated basis sets have given phase shifts for the electron and positron scattering from hydrogen and helium that are more precise than any previously published. The first results for calculations on molecular systems will be presented.

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